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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,832	07/12/2001	John Border	PD-201025	1395

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EXAMINER

SWEARINGEN, JEFFREY R

ART UNIT	PAPER NUMBER
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2145

DATE MAILED: 05/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/903,832

Applicant(s)

BORDER ET AL.

Examiner

Jeffrey R. Swearingen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Claim Rejections - 35 USC § 103***

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baras et al. ("Fast Asymmetric Internet Over Wireless Satellite-Terrestrial Networks," MILCOM 97 Proceedings, Nov. 3-5 1997, Annual Military Communications Conference) in view of Takagi et al. (EP 0 903 905 A) in further view of Walrand (Communications Networks: A First Course, Boston: McGraw-Hill, 1998).

3. In regard to claims 1, 10, 19, and 28, Baras discloses *a spoofing module configured to selectively spoof a plurality of connections associated with a plurality of hosts based upon corresponding spoofing criteria and to provide local acknowledgement of received messages over the connections* [Baras, 375, The TCP Spoofer Kernel]; *a connection module configured to multiplex the plurality of connections over a common backbone connection* [Baras, Figure 1, wherein the satellite link is a common backbone connection]; *and a path selection module configured to determine a path among a plurality of paths to transmit the received messages based upon path selection criteria* [Baras, 376 selects which path to use by utilizing TCP port numbers]. Baras fails to disclose prioritization and data compression. However, Takagi in the same field of endeavor discloses an access prioritization module based on criteria [Takagi, column 28, lines 14-41]. Baras and Takagi both deal with high speed Internet using TCP being transmitted over a wireless radio network; in the case of Baras, the wireless radio network is a satellite link. It would be obvious to one of ordinary skill in the art to combine the teachings of Baras and Takagi because Baras deals with multiple applications with different service requirements [Baras, 375-376] and Takagi wishes to improve the performance of TCP by prioritizing the transfer of IP datagrams so that IP datagrams with a higher priority level [greater service requirement] would be broadcast before an IP datagram with a lower priority level [lesser service requirement] [Takagi, column 28, lines 14-33]. The combination of Baras and Takagi fails to disclose the use of data compression. However, Walrand discloses the foundations of data compression [Walrand, 250-261, 8.4 "Foundations of Compression"] on

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a computer network. Baras and Takagi are both TCP networks, and Walrand is in the same field of endeavor because it is a generalized computer networking textbook covering basic principles. Therefore, it would be obvious to one of ordinary skill in the art to combine Walrand's data compression techniques in many possible ways with the Baras and Takagi combination for the purpose of improving performance of the system. [Baras, 375, Takagi, column 28, lines 31-33, Walrand, 238 and 250].

4. In regard to claims 4, 13, 22, and 31, Baras in view of Takagi in further view of Walrand is applied as in claims 1, 10, 19 and 28. Baras further discloses *wherein the spoofing module is configured to allocate a connection control block among a plurality of connection control blocks corresponding to a spoofed connection, each of the plurality of connection control blocks storing information related to the plurality of connections, wherein the quantity of connection control blocks is configurable.* Baras discloses allocating a new CCB upon detection of a new connection. The CCB is released when the connection is terminated, aborted, or has been idle. [Baras, 375, Data Structures and Idle Connection].

5. In regard to claims 2, 11, 20 and 29, Baras in view of Takagi in further view of Walrand is applied as in claims 4, 13, 22 and 31. Baras further discloses *a mapping table to store connection control block allocation information.* "To enable fast searching for the CCB of a received segment a hash table is maintained and each CCB is hashed to a bucket based on the tuple <hybrid terminal IP address, hybrid terminal TCP port number, Internet host IP address, Internet TCP port number>." [Baras, 375]

6. In regard to claims 3, 12, 21 and 30, Baras in view of Takagi in further view of Walrand is applied as in claims 4, 13, 22 and 31. Baras further discloses *a hash function logic configured to output pointers corresponding to the plurality of connection control blocks.* "To enable fast searching for the CCB of a received segment a hash table is maintained and each CCB is hashed to a bucket based on the tuple <hybrid terminal IP address, hybrid terminal TCP port number, Internet host IP address, Internet TCP port number>." [Baras, 375]

7. In regard to claims 5, 14, 23 and 32, Baras in view of Takagi in further view of Walrand is applied as in claims 1, 10, 19 and 28. Baras discloses use of a satellite link. [Baras, 372, "...a segment of this hybrid network involves a geostationary satellite..."]. Baras in view of Takagi fails to show that the satellite link can be encrypted. However, Walrand discloses that in order to protect a computer network

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from intrusions and threats, various security measures should be put into place.

"Cryptography...concerns the development of mechanisms that protect the contents of messages or the identity of their authors. We start by discussing the general principles of cryptography...Encryption and hashing are primitive operations that are used to build security systems that we examine in Section 8.3." [Walrand, 241-250]. It would be obvious to one of ordinary skill in the art to add encryption to many parts of the Baras/Takagi/Walrand invention, including the satellite link, for the purposes of protecting data from being read by someone other than its intended recipient.

8. Regarding claims 6, 15, 24 and 33, Baras in view of Takagi in further view of Walrand is applied as in claims 1, 10, 19 and 28. Baras and Takagi both further disclose using the Transmission Control Protocol. [Baras, 374, Takagi, column 1, lines 15-20, column 13, lines 25-58].

9. In regard to claims 7, 16, 25 and 34, Baras in view of Takagi in further view of Walrand is applied as in claims 1, 10, 19 and 29. Takagi further discloses *the spoofing criteria includes at least one of Destination IP address; Source IP address; TCP port numbers; TCP options; or IP differentiated services field*. Takagi discloses using the header information of the IP datagram to pass datagrams through virtual channels (TCP spoofing). The IP datagram information used includes source IP address, source port number, destination IP address, destination port number. [Takagi, column 14, lines 25-33, column 16, lines 47-58, column 17, lines 5-17]

10. In regard to claims 8, 17, 26 and 35, Baras in view of Takagi in further view of Walrand is applied as in claims 1, 10, 19 and 29. Takagi further discloses *the prioritization criteria includes at least one of Destination IP address; Source IP address; IP next protocol, TCP port numbers, UDP port numbers; or IP differentiated services field*. Takagi discloses using the IP datagram to select the priority level. The IP datagram includes the destination IP address and the source IP address. [Takagi, column 17, lines 5-17, column 28, line 34 – column 29, line 3]

11. in regard to claims 9, 18, 27 and 36, Baras in view of Takagi in further view of Walrand is applied as in claims 1, 10, 19 and 29. Baras further discloses *the prioritization module sets priority of one of the received messages, the one message being an IP packet, wherein the path selection criteria includes at least one of the priority of the IP packet, Destination IP address, Source IP address, IP next protocol,*

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*TCP port numbers, UDP port numbers or IP differentiated services field.* Baras discusses selecting the path based upon TCP port numbers. [Baras, 376, "In this hybrid scheme..."]

### ***Response to Arguments***

12. Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

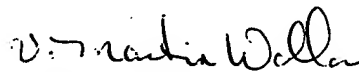
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Valencia Martin-Wallace can be reached on 571-272-6159. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPS

  
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